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BASIC DIRECTIVES FOR ENVIRONMENTAL PROTECTION

Sofia RABOTNICHESKO DELO in Bulgarian 9 Jul 77 pp 1-3

[Main Directions in the Preservation and Reproduction of the Natural Environment in the Bulgarian People's Republic Approved by Decision of the State Council of the Bulgarian People's Republic Dated 29 June 1977]

[Text] The preservation and reproduction of the natural environment is an indivisible part of the historical task of Bulgarian Communist Party in building a developed socialist society, establishing a socialist way of life, and shaping an all-round developed individual. The scientific foundation of the party and state policy in this field is the Marxist-Leninist doctrine of the interaction between society and nature.

The establishment of a harmonious interaction between society and nature stems from concern for the people which is the meaning and content of the party's policy. "Without a sensible inter-relationship between man and nature, and between society and nature," Comrade Todor Zhivkov said, "there could be no harmonious development of the individual or of social life... Nature is the source of tremendous wealth. It supplies labor objects. It is a condition for the existence of people and society, a condition and factor for creative inspiration, and a field for creative and labor daring."

Under man's influence nature surrounding him has been changing for thousands of years. This is an objective process which determines the existence and development of society. It will continue into the future on an ever broader scale. The extent and ways and means of influence on nature are determined by the development of production forces and ruling production relations. History is familiar with many examples in which thoughtless interference of man with nature has left behind it barren, lifeless and hostile space. "Culture," K. Marx said, "if developed spontaneously rather than guided deliberately...leaves behind it a desert." Marx sounded the first alarm for the protection of the natural environment.

At the present stage, under the influence of the tempestuously developing scientific and technical revolution, the problem of the inter-relationship

between society and nature assumes new aspects. The evermore intensive use of natural resources with the help of the tremendously increased technical power of man has resulted in the fact that a number of adverse ecological phenomena have reached critical points. The quantitative growth and qualitatively new forms of influence on the natural environment disturb the natural circulation and integrity of the earth's biosphere--the home of mankind.

The global nature of the pollution of the world's oceans and of the atmosphere affects, directly or indirectly, to a different extent the interest of all countries in the world. All national economies are experiencing evermore accutely the adverse consequences not only of the pollution of "their own" natural environment but the pollution of air masses and water currents by other countries. This affects mostly countries with relatively small territories and limited natural resources. The ecological dependence among countries on a regional and planetary scale is a new phenomenon in the development of modern society and an indivisible structural part of international relations. Today the preservation of the environment is a problem affecting all mankind, a problem of the century.

The contemporary aspects of the environmental protection problem are resolved under complex international political circumstances. The sociopolitical and class differences between the two world systems--capitalist and socialist--determine the differences in the objectives and tasks related to environmental protection.

Under capitalism the approach to the solution of the problem of interaction between society and nature bears the imprint of class-antagonistic contradictions! The law of the extraction of maximal profit operates with equal lack of mercy toward man and nature.

Revealing the basic laws governing the development of society and nature, Marxism-Leninism created a dilectical-materialistic concept of an essentially new solution to ecological problems and to establishing harmonious relations between society and nature. V. I. Lenin was the first to formulate the basic principles of the policy of the Communist Party and the socialist state in terms of treating nature carefully. The Soviet Union raised the Leninist principles to the level of a law.

Socialism created objective prerequisites for the conscious regulation of interaction between society and nature on the basis of the public ownership of capital goods and socialist social relations. The protection and improvement of the natural environment under socialism is inseparable from the planned and purposeful development of social production in the interests of the working people. It is a governmental, a national cause.

The practice of the Soviet Union and the other members of the socialist comity has indicated that the adverse consequences of the development of the scientific and technical revolution are not fatally unavoidable in terms of the human environment. "Only under socialist conditions," said Leonid Il'ich

Brezhnev, "does the scientific and technical revolution develop in a proper direction consistent with the interests of man and society."

The Bulgarian People's Republic is following a course of combining the intensive development of the national economy with the preservation and improvement of the natural environment in order to implement the socioeconomic objectives of the Bulgarian Communist Party. The further dynamic development of the material and technical base of developed socialism calls for the application of a unified scientific state policy in the protection and reproduction of the natural environment. Our socialist society is inspired by Marx's brilliant prediction according to which communism alone could radically resolve the centuries-old controversy between man and nature in favor of both man and nature.

## I. Preserving and Improving the Qualities of the Natural Environment

### 1. Condition of the Natural Environment

The Bulgarian People's Republic is a country with a relatively small territory but with amazingly varied, beautiful, and rich nature.

Great damage was caused to Bulgarian nature in the course of ages of Turkish slavery and under capitalism. For centuries natural resources were plundered ruthlessly. As the result of the predatory exploitation of the forests entire areas were stripped bare. Erosion completed the destruction of the barren soil.

The victory of the socialist revolution opened extensive possibilities for the full and sensible utilization of the various natural resources. They became the property of the entire people. The accelerated development of material production, particularly after the historical April 1956 BCP Central Committee Plenum, resulted in the all-round development of the national economy and the steady upgrading of the living standard of the people. At the same time, however, because of imperfect technologies and insufficient economic possibilities in the first years of the building of socialism in the country certain consequences adverse to the natural environment appeared as well.

The Bulgarian Communist Party formulated a clear and systematic policy for the preservation and reproduction of the natural environment. The tenth congress made this policy a program party task. The defense of nature is the constitutional duty of all state, economic, and public organs and organizations. It is the duty of every citizen.

A number of positive results have been achieved in the implementation of party, state, and governmental decisions. Socialist nature protection legislation was developed. A system of central and local state organs in charge of environmental protection was established. Special regulations were passed on the preservation, restoration, and improvement of the natural



environment in some territorial complexes, as well as programs for improving the sanitary-hygienic condition of a number of cities and industrial areas. The public movement for the protection of nature is expanding. The unified plan for the socioeconomic development of the country has a section on environmental protection. The ecological requirements related to environmental protection have become mandatory in the planning and building of new production capacities and in modernizing and reconstructing existing ones. Scientific research and applied activities are expanding and becoming more specific.

The areas replanted in the past three decades exceed 14 million decares. Field protection belts, big areas in vineyards, orchards, and other perennial crops have been planted. Irrigation systems have been built and swamped areas have been drained. The number of protected natural sites has been increased. Treatment installations have been built at a number of industrial enterprises. Some of the strongly polluted river sections have been purified to a level suitable for economic use. Modern resort complexes have been built. Initial experiments have been conducted for the comprehensive and harmonious organization of the living environment.

While giving a positive assessment of projects accomplished so far, the State Council notes that the high pace of economic development is outstripping the quantitative and qualitative growth of environmental protection measures. The successes achieved and the scale of the preservation, restoration, and improvement of the environment are no longer consistent with the increased economic possibilities of the country and the stricter requirements concerning the quality of the living environment in the socialist society. The trend toward the pollution of the air, water, and soils in a number of parts of the country has not been stopped. The growing pollution of the air as a result of automotive transportation, and the increased level of noise and vibrations are becoming evermore alarming. All this worsens the sanitary-hygienic conditions and the microclimate of settlements.

Activities conducted so far have consisted mainly of the purification and restoration of individual environmental components (water, air, and soil) rather than the adoption of comprehensive measures for the protection of the environment as an integral entity. Treatment systems are insufficiently effective and are not being maintained in proper working order. Weaknesses are being allowed in the territorial location of production forces and in the structure of settlements.

A change in the attitude toward environmental protection has not taken place in a number of labor collectives or economic managers. Such activities are still being underestimated and considered a secondary obligation. An effective control system has not been developed and insufficient use is being made of economic and administrative means for the protection and improvement of the environment. Environmental protection legislation is being violated and strict penalties are not being applied to violators. The view that the rational utilization of natural resources and environmental protection

constitute an essential factor in upgrading the effectiveness of the national economy and improving the health of the population, as well as the development of a socialist way of life has not been consolidated.

Despite such negative phenomena in individual areas, the natural environment in the Bulgarian People's Republic is favorable both as the living environment of the people and as a source of natural resources.

## 2. Objectives and Directions in the Protection and Reproduction of the Natural Environment

The 11th BCP Congress earmarked the prospects for the further building of the material and technical base of the developed socialist society. In the forthcoming years large scale construction will be based on a qualitatively new level of territorial concentration of production capacities. Natural resources will be used evermore intensively. The further dynamic development of the economy will result in the construction of new production facilities. The Congress provided a clear and categorical stipulation: a total conversion must take place in the preservation of the environment, the damages caused must be eliminated, and no new violations must be allowed. Sensible use is the best environmental protection.

Guided by the stipulations of the Bulgarian Communist Party on the preservation and reproduction of the natural environment, the State Council of the Bulgarian People's Republic believes that the main objective of the state's policy in this field should be the protection and improvement of the quality of the environment as the basic source for resources and as the living environment of the present and future generations, and the development of ever greater harmony in relations between society and nature. This can be achieved by utilizing the advantages of the socialist social system organically combined with the achievements of scientific and technical progress.

This main objective covers the following inter-related subtargets:

- a. Nature protection: preventing harmful consequences of human influences on the natural environment;
- b. Nature restoration: elimination of damages and restoration of the natural qualities of nature for the self-regulation and reproduction of resources;
- c. Nature reorganization: purposeful improvements of the qualities of the natural environment and upgrading its reproductive, environment setting, recreational, and other functions, optimizing the biosphere, increasing the productivity of ecological systems, including the soil, improving the landscape, and creating a maximal harmony between the natural environment and the living requirements of man;
- d. Nature education: developing a communist attitude in the population and the growing generations toward the natural environment as a factor of

socioeconomic development and as an inexhaustible source for patriotic, aesthetic, and physical education.

The comprehensive nature of the problems related to building a developed socialist society calls for the solution of problems of preserving and reproducing the natural environment on a qualitatively new basis, applying the multiplication approach and using the achievements of scientific and technical progress in order to increase national economic results. The natural environment contains natural multiplication agents which make it a broad field for the application of the multiplication approach and for achieving a multiplying economic, social, and ecological effect.

Some essential characteristics of the natural environment must be taken into consideration in the application of the new approach:

The natural environment is an inter-related dynamic system. Essential changes in its individual components trigger changes within the entire system;

The adverse consequences of some damages done to the natural environment appear considerably later and, in many cases, are irreversible;

The significance of natural resources increases in the course of time. Some of the unrecoverable or slowly recoverable resources become scarce;

The protection and improvement of the natural environment is an exceptionally important link within the overall reproduction process on the scale of the entire national economy;

The protection and improvement of the natural environment has a common spatial coverage with the territorial and settlement structure and the territorial location of production forces.

We must also meet the following basic requirements in the application of the multiplication approach in the protection and reproduction of the natural environment:

The creation of a scientific system of dynamic norms, standards, and requirements governing the rational utilization of the land and its subsoil, and the vegetal and animal world, for protecting the purity of the air, water, and soil, insuring the reproduction of natural resources, and improving the qualities of the environment in accordance with the requirement that the Bulgarian people live in a clean and healthy environment;

The elaboration of standard solutions, designs, and comprehensive plans for the application of wasteless, low-waste, and other progressive technologies, and closed water circulation cycles as a strategic direction in the overall solution of environmental protection and reproduction problems and of the most efficient utilization of natural resources and energy;

Development of model systems, standardization and unification of elements and parts used for the designing, production, and building of treatment systems as a standard to be applied in all similar production facilities, territories, and activities;

Achieving full coordination of activities and concentration and cooperation of facilities for the development of sectorial and territorial integrated systems for the treatment of sewage waters, establishment of common facilities for the collection and processing of waste, organization of parallel production facilities using waste materials, and cooperated use of the wastes of some enterprises as raw materials for others, making possible their use in various production complexes and settlement systems;

Creation of models for the protection of the air, water, soil, flora, and fauna, and their application throughout the territory of the country wherever suitable conditions exist;

Insuring the proportional and harmonious development in time and place of the various systems for the protection and reproduction of the environment in their territorial and sectorial aspects in order to achieve comprehensiveness and purposefulness in the work and results of the developed systems and to maintain a dynamic ecological balance;

Protection and enrichment of the genetic and gland stocks with a view to their fuller utilization by future generations as the result of expanded technological possibilities;

Elaboration and application of a modern system for managing the protection and reproduction of the environment based on the utilization of computers and in accordance with cybernetic principles.

The application of the multiplication approach in the various sectors, territorial areas, and realms of activities, with proper consideration and utilization of the characteristics of the natural environment would insure the high effectiveness of capital investments in the protection and improvement of the natural environment, and the multiplication of the local and sectorial effects along the entire chain of the reproduction process, and the reaching of overall economic, social, and ecological results.

The economic effect may be increased as the result of a scientific and rational utilization of raw materials, materials, waters, energy, the soil, forests, and other natural resources through the use of wasteless technologies, closed water consumption cycles, standard and comprehensive systems, shared facilities, and other progressive methods; organizing satellite production facilities in the utilization of waste; concentrating funds on a sectorial and territorial scale; increasing the durability of production equipment and installations; achieving a relative economy of means used for the restoration of the natural environment and for upgrading labor productivity. On a national economic scale the economic effect is synthesized in higher social labor productivity and higher national income.

The social effect is increased as the result of the intensification of biological, health, recreation, and other environment-forming functions of the natural environment and of improving the qualities of the living environment in terms of habitation, labor, and recreation; improving the health of the people and raising a hardy generation; developing a communist attitude among the working people and the youth in terms of natural resources as an inseparable part of the overall public wealth and increasing their patriotic, aesthetic, and physical education; raising the living standard of the people, asserting the socialist way of life, and building an all-round developed personality.

The ecological result is multiplied as a result of the preservation of the natural circulation in nature and of its self-regulation capacity; improving evolution conditions in the biosphere and the reproduction of biological resources; protecting and enriching the genetic stock and, particularly, of valuable and rare plants and animals; preserving for future generations and for science valuable ecological systems and communities, reserves, and natural parks; improving weather conditions and upgrading the role of natural resources in the development of the production forces of the socialist society.

Preserving and improving the qualities of the natural environment and achieving a multiplying overall economic, social, and ecological effect make even clearer the tremendous advantages of the socialist society compared with the capitalist.

With a view to creating conditions and prerequisites for the implementation of the strategic tasks and objectives in the protection and reproduction of the natural environment, and for the systematic application of the multiplication approach and upgrading national economic effectiveness the following would be expedient:

In accordance with the present basic directions the Council of Ministers should approve a general long-term program for the development and application of wasteless, low-waste, and other progressive production technologies, and of closed water utilization cycles.

The general long-term program must be expressed in the five-year and annual plans for socioeconomic development, and in plans for the development of science and technical progress, in planning capital investments, and in design and application. The program must earmark the main directions and basic technologies and stages in the elaboration and application in sectors and production facilities whenever new capacities are built or existing capacities are reconstructed and modernized, using the best achievements of the Soviet Union and other countries, as well as our own experience. Priority must be given to technologies, methods, and means which would yield in the immediate future the greatest economic, social, and ecological results. Particular attention should be paid to converting to closed water consumption cycles by industrial enterprises which consume large quantities of water and have strongly polluting output.

Ministries, departments, and okrug people's councils must elaborate specific plans for the implementation of the general long-term program and develop effective mechanisms for the systematic application of the multiplication approach in the protection and reproduction of the natural environment.

The Environmental Protection Committee of the Council of Ministers, the State Committee for Planning, and the Construction National Complex, together with the Committee for Science, Technical Progress, and Higher Education, ministries, departments, the State Committee for Standardization, and the okrug people's councils must elaborate a scientific system of dynamic norms for environmental protection as a subsystem of the integral system for dynamic norms of the country.

The system must include norms governing:

The qualities of the natural environment in settlement systems in accordance with the requirements of the unified systems for the comprehensive development of the living environment;

The purification and protection of the air, water, and soil, and restriction of noise and vibrations in accordance with sanitary-hygienic requirements;

The admissible load to be carried by the natural environment in the course of production and other human activities related to the use of natural resources.

The system of dynamic norms must be consistent with the ecological requirements governing the protection and enrichment of the genetic plant and animal stock and be based on the following principles:

Uniform information: to insure the making of scientific management decisions and provide effective control and accountability;

Comprehensiveness: to cover all indicators of the individual components of the natural environment subject to quantitative measurements;

Standardization: make possible the use of comprehensive standard systems and elements in designing and building treatment installations and measurement and control facilities based on the requirements of the multiplication approach;

Effectiveness: insure the rational utilization of natural resources and energy and the multiplication of the economic, social, and ecological results;

Dynamism: take into consideration the trends in the development of production and treatment equipment and technology for the periodical renovation of norms;

Prevention: prevent negative consequences to the natural environment.

### 3. Basic Tasks and Stages in the Protection, Restoration, and Improvement of the Natural Environment

The main objective of the protection and reproduction of the natural environment should be implemented in stages. In the seventh five-year plan and through 1990 the following basic problems must be resolved:

a. Purification of the Air

The Environmental Protection Committee of the Council of Ministers:

Shall set up, together with the sectorial ministries, a file on all sources of pollution and on the amounts of harmful substances emitted in the air and establish differentiated purification norms in accordance with sanitary-hygienic requirements;

Shall pay particular attention to the purification of the air until 1980 in the areas of Sofia-Kremikovtsi, the Devnya Valley, the Maritsa-Iztok Power Complex, the cement plants in Zlatitsa and Pirdop, the Petrochemical Combine near Burgas, and in the areas of Kurdzhali and Razlog;

By 1985 the purity of the air must be consistent with the sanitary-hygienic requirements applicable to the entire country.

b. Purification and Rational Utilization of Waters

The Environmental Protection Committee of the Council of Ministers shall approve, together with the Committee for Science, Technical Progress, and higher education, and the sectorial ministries and departments, progressive norms for the consumption of and payment for the water and for the amount of waste water allowed to different sectors, production facilities, and activities.

The Environmental Protection Committee and the Ministry of Public Health shall strictly supervise the protection of the purity of drinking waters, gradually terminating their use for other purposes by the central water supply networks.

By 1980 the percentage of purified water must reach about 55 percent of the overall quantity of effluent waters; comprehensive measures must be implemented for the protection and purification of the waters of the Danube River; the purification of the Iskur, Maritsa, Yantra, and Mesta Rivers must be accelerated.

By 1985 an end must be put to the pollution of river, dam, and underground waters in excess of admissible norms. All water sources must be made suitable for industrial utilization.

By 1990 the category of water purity must be upgraded to the level required by their purpose of utilization.

Comprehensive measures must be implemented for the preservation and purification of the waters of the Black Sea in the period through 1990.

The agroindustrial complexes, forestry industrial farms, and local authorities shall be held accountable for protecting the purity of small rivers, streams, springs, and other water sources on territories under their management.

c. Protection of the Land Fund

The current size of land under cultivation shall not be reduced; systematic agrotechnical and reclamation measures shall be carried out to increase the size of the arable land; an equivalent exchange shall be made between the forest and agricultural funds depending on specific circumstances.

The pollution, salinization, acidification, and swamping of soils as a result of the use of chemical fertilizers and plant protection chemicals, improper irrigation, and so on, shall not be allowed; the use of biological and integral (chemical, biological, and other) plant protection shall be accelerated and expanded; agrotechnical methods used in soil cultivation and the full utilization of natural fertilizers shall be improved decisively; special measures shall be taken to prevent the pollution of the soil with radioactive and toxic substances, solid wastes, and heavy metal wastes, and the pollution of underground waters with nitrates and other pollutants.

The ministries and other departments shall reclaim and improve the soil and the landscape disturbed in the extraction of minerals and quarry materials and construction projects. They shall pay particular attention to the removal and utilization of the humus stratum; strict penalties shall be imposed and no new areas shall be allotted in the case of non-fulfillment of the plan for the recultivation of the soil and the restoration of the landscape.

The Ministry of Forests and Forest Industry shall accelerate the elaboration of a national long-term program for the fight against erosion.

d. Intensifying the Environmental Forming Functions of the Natural Vegetation and Protection of the Genetic Stock

The intensification of protective, recreation, water control, and other environment forming functions shall be a basic principle in the creation, cultivation, and utilization of forests. To this effect:

The Council of Ministers shall review the forecast and long-term plans for the development of the forest economy through 1990 and approve a scientific ratio between deciduous and coniferous species in accordance with soil and weather conditions and biological characteristics of timber species by areas, terrains, and altitude levels, with a view to increasing the productivity of the forests and intensifying their environment forming functions. On this basis forest development and planting plans shall be renovated; the use of forests shall be regulated in accordance with their growth, species, age structure, and multiple-purpose functions; the development of highly productive industrial forests shall be accelerated.



Landscapes shall be improved, paying particular attention to the afforestation of ravines, gullies, river banks, abandoned land, or land unsuitable for other activities, and to the creation of special water regulating and wind protection belts.

The vegetal genetic stock of the country and the ecological systems typical for the respective areas and, particularly, historically developed local species of cultivated plants, bearers of valuable genetic qualities, and the introduction of new plant species shall be enriched; an optimal ratio shall be created between timber and grass species as well as between natural and cultivated ecological systems.

The Bulgarian Academy of Sciences shall issue a "Red Paper" listing plants threatened with extinction in Bulgaria.

The network of protected natural areas shall be expanded and their preservation and utilization systems shall be improved; in the future the areas of preservation and their buffer zones shall total one percent of the country's territory.

#### e. Protection of the Animal World

Scientific norms shall be elaborated for improving the natural habitat of the individual game species; birds and small game shall be protected in the course of agricultural operations and, particularly, in harvesting the crops over large areas as well as in the use of pesticides and chemical fertilizers. Suitable planted strips shall be established between the blocks of the agroindustrial complexes.

Suitable biotechnical measures shall be implemented for the restoration and improvement of the natural habitat of migratory birds; rare or threatened animal species as well as characteristic animal communities shall be protected.

The fishing resources of domestic water reservoirs, in the Danube River, and the Black Sea shall be protected, enriched, and increased through the implementation of biologically substantiated measures such as stocking, breeding new fish species, improving fish development conditions, and others.

#### f. Protection and Rational Utilization of Natural Recreation Resources

Achieving maximal social and economic effectiveness while fully observing ecological requirements shall be the basic criterion in the utilization of recreation resources.

The State Committee for Tourism and the Committee for Architecture and Public Works, in coordination with the Environmental Protection Committee, shall undertake the comprehensive study and inventorying and formulate an overall cadaster of natural recreation resources as part of the Integral Cadaster of the Country.

The comprehensive and year-round utilization of recreation resources, for relaxation, tourism, and treatment shall be insured as an important factor for the restoration and strengthening of the health of the working people; fuller use shall be made of existing favorable possibilities for planning the development of resorts and tourism.

The development of recreation shall be based on the overall assessment of its impact on the environment and its resources. Organizations exploiting and natural recreation resources shall be fully responsible for their preservation, rational utilization, and enrichment.

#### g. Improving the Quality of the Environment in Settlement Systems and Territorial-Production Complexes

Improving the quality of the environment in settlement systems and territorial-production complexes must be fully consistent with the Basic Directions for the Further Development and Improvement of the Territorial and Settlement Structure of the Bulgarian People's Republic, issued by the BCP Central Committee in March 1977.

The unified systems for the organization of the country's territory must be established after the all-round landscape-ecological expert study of the impact of production and other human activities on the health of the working people and on the environment; all activities related to the use of natural resources and energy and the protection of the environment must be consistent with the indicators, norms, and restrictions contained in the unified systems for structuring the country's territory.

The ecological map of Sofia must be elaborated and used in the formulation of ecological forecasts for long-term development, the solution of the problem of transportation flows, the working regimen of industrial enterprises, and dynamics of population morbidity and its changes as the result of improvements in the quality of the environment. In this respect the experience of the Soviet Union in charting the ecological map of Leningrad must be studied.

The Committee for Architecture and Public Works and the executive committees of okrug people's councils must elaborate long-term plans for landscaping, the creation of recreation areas and other measures aimed at improving the quality of the environment in settlement systems on the basis of the territorial-structure and settlement plans.

The Ministry of Public Health must elaborate scientifically substantiated physiological-hygienic norms on the quality of the environment in settlements and observe systematically the influence of the environment on the dynamics of the population's health.

## II. Organization and Management of Activities Related to the Protection and Reproduction of the Environment

## 1. Planning

The plans for the socioeconomic development of the country and the measures related to their implementation must provide conditions for the protection and improvement of the qualities of the environment as an important factor in upgrading national economic effectiveness and satisfying better the material and spiritual needs of the people.

The following is necessary to insure the further improvement of planning the protection and reproduction of the natural environment:

The plans must insure the implementation of the general long-term program for the elaboration and application of new, highly effective production technologies which do not pollute the environment and of effective treatment installations should such technologies be impossible to develop;

Planning must be based on norms and forecasts governing the development of ecological and economic systems, insuring total coordination between the base of economic development and indicators governing the quality of the environment during the planned period;

The plans should provide for the maximal effectiveness of capital investments allocated for the protection and reproduction of the environment, assessed not only on the basis of the local (sectorial) but the overall economic effect and its future increase;

The plan must contain integrated quality indicators for recording changes in the environment on the sectorial and territorial levels, mandatory in reporting end results;

The State Committee for Planning and the Environmental Protection Committee must organize the elaboration and approve methods for the economic assessment of basic natural resources and of the harm caused by environmental pollution.

The State Committee for Planning, the ministries and other departments and the okrug people's councils must concentrate capital investments on the solution of the most urgent problems and on achieving high economic, social, and ecological results based on environmental protection plans; the plans for the social development of labor collectives must include measures for protecting and improving the natural environment.

The Ministry of Machine Building and Metallurgy, Ministry of Construction and Construction Materials, and Environmental Protection Committee in coordination with the State Committee for Planning and the investing ministries, must provide a specific nomenclature of projects aimed at environmental protection in accordance with the five-year and annual plans; some enterprises must specialize in the production of treatment equipment, paying particular attention to insuring the availability of control-measuring equipment and automatic appliances; specialization and cooperation with the Soviet Union

and the other CEMA-member countries must be expanded in the production and complementing of such installations.

## 2. Scientific Research Activities and Cadre Training

The following is necessary in order to upgrade the effectiveness and quality of scientific research and the training of cadres in the protection and reproduction of the environment:

The plans for the development of scientific and technical progress must call for basic research for the determination of the most promising ways for the protection and reproduction of the environment; the natural and engineering and technical sciences must be directed toward the elaboration and utilization of waste-free and other progressive technologies, closed water utilization cycles, and effective treatment installations for the rational utilization of natural resources and energy and the protection of the environment; the social sciences must elaborate socioeconomic and ecological aspects of the socialist use of nature and of the impact of the changed natural environment on the qualities of the living environment and the ways to harmonize the interaction between society and nature;

A scientific and technical forecast must be formulated on changes in the natural environment in accordance with the socioeconomic development of the country through 1990-2000;

A system of ecological-economic models must be elaborated for optimal control of processes related to the utilization of nature and environmental protection;

The system of scientific and technical information in the field of protecting and improving the natural environment must be expanded and improved;

Scientific cooperation and exchange of experience with the Soviet Union and other countries, based on long-term plans for joint scientific research activities for the protection and reproduction of the natural environment must be expanded and intensified;

Together with the Environmental Protection Committee of the Council of Ministers, and the Bulgarian Academy of Sciences, the Committee for Science, Technical Progress, and Higher Education must formulate comprehensive coordination programs for scientific research and design activities for the protection and reproduction of the natural environment and control their implementation.

The Scientific Center for the Protection of the Environment and Water Resources of the Environmental Protection Committee must:

Coordinate scientific research and application activities related to the protection and reproduction of the natural environment;

Organize and coordinate the participation of Bulgarian scientific research institutions in the implementation of the General Expanded Program for Cooperation Among CEMA-Member Countries and Yugoslavia for the Period Through 1980 in the Field of the Protection and Improvement of the Environment and the Related Rational Utilization of Natural Resources.

The Role of the Bulgarian Academy of Sciences in planning and coordinating basic and other scientific research conducted by academic institutes in the field of the protection and reproduction of the environment must be intensified.

The Ministry of Public Education must insure the fuller study of the subject of environmental protection and improve the training and education process through curricula and programs, covering the entire course of training offered by the integrated secondary polytechnical schools in order to develop in the students love for Bulgaria's nature, and knowledge and durable habits related to its protection and improvement.

The Committee for Science, Technical Progress, and Higher Education, and the Medical Academy must review and include in the curricula and plans of higher educational institutions and courses for post graduate qualification the study of the comprehensive problem of environmental protection and improvement in accordance with the special training subjects; the necessary teaching cadres must be specialized in providing ecological training to the students; the use of post graduate studies, specialization, and other methods for the training of highly skilled scientific cadres and specialists in the field of environmental protection and reproduction must be expanded.

Together with the sectorial ministries and departments the Committee for Science, Technical Progress, and Higher Education must formulate a special program for upgrading the qualification and insuring the retraining of the leading cadres at all levels on problems related to environmental protection in their respective branches.

The sectorial ministries and departments shall organize special course for the training and retraining of specialists and executive cadres servicing treatment installations, control equipment, and other technical environmental protection facilities.

### 3. Environmental Protection Legislation

The role of socialist law must be enhanced in the protection of the environment by improving environmental protection legislation in accordance with ecological requirements and upgrading the effectiveness of its application. To this effect:

The Council of Ministers shall formulate a plan for systematizing, codifying, renovating, and improving general and specialized environmental protection legislation; it shall discuss the need for the drafting of an environmental protection code;

The Ministry of Justice, Chief Prosecutor's Office, Supreme Court of the Bulgarian People's Republic, Supreme State Arbitration Authority, and Environmental Protection Committee shall elaborate a system of measures to upgrade the effectiveness of the struggle against violations of the environmental protection laws; they shall insure the strict application of the stipulated penalties and the full compensation for damages caused;

The role of the organs of the Environmental Protection Committee, and of the people's councils and social organizations in providing effective control of the observance of environmental protection legislation shall be enhanced.

#### 4. Administration

The administration of the activities related to the protection and reproduction of the environment shall be within the system of the unified national system for social management. The basic criterion in assessing administrative activities shall be the achievement of increasing high economic, social, and ecological results.

Further improvements and upgrading of the effectiveness of managing the activities related to the protection and reproduction of the environment shall follow the following directions:

a. The development of the unified national system for observation of and information concerning the condition of the natural environment shall be accelerated as a subsystem of the unified social information system which shall provide data for the making of effective management decisions at all levels and for exchange of information with other information subsystems.

Furthermore, the system shall insure the following:

Current information on the condition of the environment in order to provide operative control by sector and on the territorial level, on the basis of which decisions shall be made for the elimination of violations of the approved systems;

Periodical summed-up information for the use by functional and sectorial ministries and other departments which will analyze the trends in changes in the qualities of the environment for planning and statistical purposes and for the making of administrative decisions;

Summed-up information to be used for the making of strategic decisions on the national level--for the elaboration of basic directions to be followed by the state's policy for environmental protection, long-term forecasts, formulation of five-year plans, planning capital investments, cadre training, and coordinating cooperation with other countries;

The Central Institute for Scientific and Technical Information shall supply the Environmental Protection Committee, and ministries and other departments with the necessary information on new developments in the field of equipment

and technology and on the achievements of advanced countries in the field of environmental protection.

b. The role of control as an indivisible part and basic element of the administrative cycle must be upgraded decisively.

All activities of the specialized control organs in charge of environmental protection must be made consistent with the increased requirements concerning the protection and improvement of the qualities of the environment.

Control activities related to environmental protection must:

Be focused entirely on insuring the prompt implementation of the tasks, and strict observance of established norms and laws, and of state and technological discipline;

Contribute to the application of the new approach by the state and the economic organs for upgrading the economic, social, and ecological effectiveness of environmental protection;

Intensify and develop preventive, systematic, all-embracing and effective control thus making it the core of overall activities related to improving the style and methods of specialized control organs in charge of environmental protection;

Insure the even more extensive participation of the working people in the work of specialized local control organs.

The work of the control organs shall be assessed on the basis of the results achieved in the prevention and elimination of violations and improvements in the qualities of the natural environment.

c. The responsibility of the administrative organs at all levels shall be intensified and a firm course of strict use of penalties shall be pursued as follows:

The state and economic organs shall bear total responsibility for harm caused to the natural environment as the result of violations of planned measures, careless attitude toward the maintenance and utilization of treatment facilities, or whenever economic organizations and their branches fail to fulfill their obligations by the fault of or lack of control by state and economic organs;

The use of economic incentives and penalties must be improved decisively; administrative influence methods must be applied effectively; officials of ministries, departments, and economic organizations and their branches who violate the established norms and standards governing the protection of the air, water, and soil, or else allow other violations of environmental protection legislation shall be held personally and materially liable and

shall bear disciplinary, administrative, or penal responsibility; the economic organizations shall pay full compensations for damages to the environment they have caused.

As a specialized supra-departmental organ in charge of implementing the integral state policy in the field of environmental protection and reproduction and in accordance with its rights and competence, the Environmental Protection Committee of the Council of Ministers shall:

Control the implementation of the general long-term program for the elaboration and application of new technologies which do not pollute the environment;

Decisively improve its coordination and control activities and display strict exactingness related to the overall implementation of planned measures by ministries and other departments and economic organizations;

Direct capital investments in drafting the Environmental Protection Section of the Unified Plan for the Socioeconomic Development of the Country toward the purification of the most severely polluted areas and control their effective use;

Issue mandatory conclusions on ecological experts evaluations of plans for the building of new and the reconstruction and modernization of existing production and other facilities;

Exercise overall control in the building of treatment and other installations for environmental protection and ban the commissioning of new and reconstructed, and modernized projects lacking installed and effective facilities;

Integrate functionally, coordinate, and direct control activities exercised by departments and their branches related to environmental protection; provide overall control over ministries and other departments and local organs on the observance of ecological requirements and norms;

Participate in the elaboration and control the observance of ecological requirements in the application of the integral systems for structuring the country's territory;

Elaborate and administer the Unified National System for Observation of and Information Concerning the Quality of the Environment;

Elaborate, together with the State Committee for Planning and the Ministry of Finance, in accordance with the existing economic mechanism, a system of incentives and penalties for the full combination of economic activities with environmental protection.

The stipulations of the Environmental Protection Committee on the elimination of allowed damages and pollutions shall be binding to all state and economic organs and organizations.



Ministries and departments shall bear full responsibility for the protection and improvement of the environment and the rational utilization and protection of natural resources in the sectors and areas of activity under their management.

In accordance with their rights and competences they shall:

Plan and implement highly effective measures for the preservation and improvement of the natural environment in sectors and activities under their management;

Elaborate and apply waste-free and other progressive production technologies and closed water consumption cycles in the planning of new and reconstruction and modernization of existing production capacities, livestock farms, and other projects for which domestic or foreign plans are available, and of highly effective treatment installations, and ways and means related to other production facilities and activities;

Approve plans for production and other projects only following an ecological experts' evaluation of the effectiveness of environmental protection measures;

Insure the building of treatment and other equipments along with the building of industrial projects and train the necessary specialized cadres for their operation; issue prescriptions to their branches on stopping production activities in the case of breakdowns or improper work of treatment equipment and adopt energetic measures for their elimination;

Decisively improve the activities of intra-departmental control over the overall implementation of environmental protection tasks and, particularly, the specific use of capital investments for maintaining the proper working order and insuring the full utilization of the treatment installations;

Take all measures within their jurisdiction for the prompt implementation of the stipulations of the Environmental Protection Committee for the elimination of violations and maintaining in proper order treatment systems;

Utilize all possibilities offered by the economic mechanism to encourage the collectives to implement the environmental protection plan; hold strictly liable officials who violate or fail to implement their obligations related to environmental protection and improvement.

The people's councils shall direct, coordinate, and control the activities related to the protection and improvement of the natural environment on their territory.

The okrug people's councils shall:

Actively participate in and submit specific proposals for the elaboration of the Environmental Protection Section of the Unified Plan for Socioeconomic Development in terms of resolving the most urgent problems and insuring the

effective utilization of capital investments in the okrug and elaborate the plan on the territorial level;

Together with the okrug environmental protection committees and with the assistance of the Environmental Protection Committee elaborate comprehensive programs for protecting and improving the natural environment in accordance with the Unified Territorial-Structure Plan and on the basis of the unified system of dynamic norms; report the implementation of programs at joint sessions with okrug Fatherland Front Committees and the participation of representatives of economic and social organizations; and periodically bring up to date programs in accordance with changes which have occurred in the socioeconomic development of the okrug;

On the basis of the territorial-structure and settlement-structure plans, the executive committees of okrug people's councils shall coordinate environmental protection and improvement activities of all organs and economic organizations regardless of their affiliation; they shall provide preventive, systematic, and effective control and fully cooperate with the Environmental Protection Committee organs in the implementation of the tasks and other measures related to the protection and improvement of the environment; they shall prosecute strictly violators of environmental protection legislation;

Together with the Fatherland Front organizations, and with the assistance of the other social organizations, the people's councils shall organize extensive competition for improving the qualities of the environment in and around settlements.

### III. International Cooperation

With its great variety of resources, nature is the greatest good of mankind. The problem of its protection is resolved, above all, on the basis of national plans and efforts of individual countries. This problem, however, could not be contained only within the individual countries inter-related through seas, oceans, rivers, the atmosphere, and transportation and communications facilities.

The global, the universal nature of environmental protection problems call for a broad and lasting international cooperation in the interest of all nations. These problems are inseparable from the struggle for the preservation and strengthening of world peace. International cooperation in the field of environmental protection must be based on the principles of equality, mutual advantage, respect for state sovereignty, non-interference in domestic affairs, and the other democratic principles of contemporary international law. Each country could make a specific and essential contribution to the preservation of the unique environment on our planet.

The members of the world socialist comity are guided by the Leninist principles of peaceful coexistence among countries with different social systems and the principles of humanism. They are pursuing a systematic policy of international detente and of strengthening and expanding all-round cooperation between

countries, which includes the area of environmental protection. The programs of the 24th and 25th CPSU Congresses adopted as a common platform by the members of the socialist comity are a vivid manifestation of this firm line. The joint activities and successes achieved by the socialist members of CEMA offer a clear example of the great possibilities offered by international cooperation in the field of environmental protection as well.

In the spirit of the Final Act of the Conference on Security and Cooperation in Europe, the Soviet Union formulated a number of specific proposals on convening European congresses and inter-governmental meetings related to environmental protection, and development of the power industry and transportation. It has formulated other important initiatives which have met with broad response and support on the part of the world's progressive public.

The international convention banning military or any other hostile use of means for influencing the natural environment, concluded in Geneva, is a new practical step toward putting an end to the arms race and strengthening the security of the peoples. As the result of the collective efforts of many countries, including Bulgaria, this document is of great international significance to the further progress of detente and the expansion of cooperation among countries in the field of environmental protection.

The Bulgarian People's Republic is actively participating in the work of the United Nations and its specialized organs and other international organizations on environmental matters. The World Inter-Communal Conference, held in Bulgaria in 1972 under the sponsorship of the World Federation of Sister Cities, adopted the Sofia Charter of Cities and Human Living Environment. At the conference Comrade Todor Zhivkov stated that, "We are guided by the understanding that the protection and improvement of the environment, including the protection of the cities, should be a strategic problem of state policy. All of us bear historical responsibility not only to mankind today but to the future generations as well. The type of earth and future we shall leave to them depends exclusively on us."

The State Council considers that the Bulgarian People's Republic must continue to implement consistently and firmly an active foreign political activity and makes its contribution to the strengthening and development of international cooperation for the solution of environmental protection problems by:

Supporting all foreign political initiatives of the Soviet Union for the further intensification and expansion of detente, military detente included and, particularly, the banning and elimination of nuclear weapons and other mass destruction means which constitute a terrible danger to mankind and its environment; actively contributing to the convening of European congresses or inter-governmental conferences on environmental protection problems and the development of transportation and the power industry;

Expanding and intensifying its cooperation with the other members of CEMA on environmental protection problems and pursuing a coordinated policy for the solution of such problems in their international aspect;

In the spirit of the Final Act of the Conference on Security and Cooperation in Europe, developing on a bilateral and multilateral basis cooperation with all participating countries and, particularly, with its neighbors and the countries along the Danube River and the Black Sea, in order to resolve problems of reciprocal interest related to environmental protection;

Actively participating and formulating initiatives in the work of the United Nations and its specialized organs as well as other governmental and non-governmental international organizations on problems related to the natural environment;

Utilizing all possibilities for expanding all-round cooperation with the developing countries, including cooperation on environmental protection problems;

Giving full support to world progressive and democratic movements for peace, disarmament, and environmental protection; actively cooperating in the implementation of the international convention banning military and all other hostile utilization of means for influencing the environment;

Promoting the policy and achievements of our country and of the members of the socialist comity in the field of the protection and reproduction of the natural environment.

#### IV. The Protection and Improvement of the Environment Is a National Matter

The protection and improvement of the natural environment directly affects the vital interests of every person and of each labor collective, and of the entire society. The right and pleasure of living among the beautiful and clean nature makes it mandatory for every member of our socialist society to be personally responsible and give his contribution to the protection and enrichment of our nature.

The following is considered expedient for the further expansion of the public movement for the protection and improvement of the natural environment and for its conversion into a nationwide cause, for upgrading the effectiveness of mass-political and ideological-educational work among the population and the growing generation, and for developing a communist attitude toward nature;

The public movement for the protection of the environment, organized and guided by the Fatherland Front, must develop as an original Bulgarian method for the mass involvement of the population in the implementation of the party's and state's policy of environmental protection and improvement;

The activities of the social movement and mass information media related to environmental protection and improvement must be developed on the basis of the Marxist-Leninist understanding of the inter-relationship between society and nature, inseparably linked with the party's socioeconomic policy of building a developed socialist society and upgrading the living standard of the people;

The tremendous national and universal significance of the protection and reproduction of the natural environment must be extensively explained to the population; an even more substantive and profound propaganda must be promoted to the effect that the socialist social system is the only one which could resolve contemporary ecological problems in the interest of the working people;

The National Environmental Protection Committee of the National Council of the Fatherland Front, and the local public committees and commissions for environmental protection must develop extensive organizational and educational work for the mass promotion of the social movement and for upgrading the activeness of the population in the protection and improvement of the environment; the network of people's universities for the study of ecological problems must be expanded;

The Bulgarian trade unions must increase their mass-political and educational activities aimed at extensively involving the labor collectives in resolving environmental protection problems, guiding and encouraging rationalizers, inventors, specialists, and leading workers to work on problems of the rational utilization of resources and energy and the protection of the environment from pollution; the work of collectives, individual production units, and individual workers in the field of environmental protection must be taken into consideration in determining the results of the socialist competition; control must be exercised on the utilization and maintenance of treatment installations, the landscaping of areas around enterprises, and others;

The Dimitrov Communist Youth Union must improve its organizational and political-educational work among the youth in order to involve it extensively in the protection and improvement of the environment and for converting such activities into a youth project; leading experience must be disseminated and the forms of youth participation in the nationwide movement for the protection of the environment must be made more varied; we must extensively popularize in our country the experience and initiatives of the All-Union Leninist Communist Youth Union on the protection and improvement of the natural environment;

The scientific and technical unions, the Union of Scientific Workers, and the scientific societies must disseminate scientific knowledge on various aspects of the interaction between society and nature; they must increase their participation in the elaboration of scientific and technical and other problems related to the protection and reproduction of the natural environment; they must assist in providing scientific and technical information to specialists in this area;

Workers in the arts and culture must promote more extensively the topic of nature in their artistic-creative activities; through the specific methods of their arts they must create vivid, exciting, and greatly effective works promoting socialist patriotism and love for Bulgarian nature as an essential feature of the new personality and the socialist way of life;

The Bulgarian Tourist Union, Bulgarian Hunting and Fishing Union, Union of Bulgarian Automobile Drivers, Bulgarian Red Cross, and the other mass organizations must promote extensive organizational, propaganda, and educational activities among their members insuring their even more active participation in the public movement for the protection and improvement of the natural environment;

The television, radio, and press must improve and intensify their propaganda and upgrade the effectiveness of their educational work and increase their control activities over the implementation of plans and programs for environmental protection and improvements;

The Georgi Kirkov Society for the Dissemination of Scientific Knowledge must broaden and increase the variety of its lectures and publication of pamphlets dealing with environmental protection and reproduction;

The National Committee for Environmental Protection, together with the other social organizations and local organs of the people's regime must:

Actively participate in the activities of the organs controlling the protection of the environment and promote social intolerance toward violations and their carriers, extensively publicizing the results of investigations; the social environmental protection movement must gradually assume some of the state functions in this field, particularly local mass control;

Organize competition for mass participation in afforestation, landscaping, improving the hygiene and greenery of settlements, preserving protected natural sites, and converting historical places into areas for aesthetic, patriotic, and internationalist education; the nationwide movement for landscaping, hygiene, and development of a pleasant and cultured environment in settlements must be raised to a higher level and developed into a nationwide socialist competition for the title of "Settlement With a Harmonious Living Environment;"

The National Committee for Environmental Protection and the Environmental Protection Committee shall organize periodical public reviews of the condition of the environment and competitions for the best works of art on the subject of nature; they shall submit a suggestion on improving the system and means for rewarding the most outstanding public figures and labor and students collectives in the field of environmental protection and improvement;

The National Committee for Environmental Protection must expand and intensify its ties and cooperation with the All-Russian Environmental Protection Society in the Soviet Union and the corresponding public movements in the other socialist countries.

The Bulgarian people are creative people and builders of a new society. They are developing their reorganizing and constructive activities in terms of nature as well. Love for our nature is imbued in the best traditions of the

people. It has been praised in our most beautiful songs and in the anthem of the Bulgarian People's Republic. Our country is small and everything in it is visible. We can see the beautiful accomplishments of its people and the wounds caused to it as a result of thoughtless use. Our people have the supreme right and responsibility to insure the sensible use and protection of nature and pass it on to future generations more beautiful and richer!

5003

CSO: 5000

CONTROL OF HYACINTH INFESTATION PLANNED

Johannesburg THE STAR in English 27 Jul 77 p 5

[Text]

The Department of Water Affairs is considering starting a fullscale spraying programme in September in which chemical weedkillers will be used to control the water hyacinth infestation of Hartbeespoort Dam.

The proposal to dispose of the hyacinths, which have seriously hampered recreation at the dam, by chemical means was adopted at a meeting on July 15.

The type of spray to be used breaks down in water, according to the Council for Scientific and Industrial Research (CSIR) and should not adversely affect the use of water for irrigation.

**BALANCE**

Research has shown that decaying plants should not seriously affect the water's oxygen balance.

Mechanical control of the weed was rejected as too expensive and because of problems of removal. Hyacinths in the dam could weigh as much as 600 000 tons.

Biological control was also rejected. The natural insect and other enemies of the tropical water hyacinth would not be able to withstand the Transvaal's cold winter.

CSO: 5000



## CRIMINAL RESPONSIBILITY FOR POLLUTION

Moscow SOTSIALISTICHESKAYA ZAKONNOST' in Russian No 6, Jun 77 pp 40-42

[Article by V. Pakutin, candidate of jurisprudence: "Criminal Law Protection of Water and Air From Pollution"]

[Text] Criminal responsibility for pollution of the air and bodies of water is specified by article 223 of the RSFSR criminal code [UK] and by corresponding articles of the UK of other union republics. The substance of the crime is in the contamination of rivers, lakes, and other bodies of water and water sources by impure and sewage water not rendered harmless, by discards of waste products of industry, agriculture, from municipal or other enterprises, institutions and organizations, by having caused or having been capable of injuring people's health either by harming agricultural production or the fish supply, or in polluting the air with harmful waste products of industrial production acting on human health.

Social considerations, which provide for the purity of the water and air basins as the natural conditions for human activities and the normal functioning of agricultural production and fishing, comprise the object of the crime being examined.

The subject of the crime is water and air as elements of nature. Article 223 of the UK refers to water not set aside from the environment by man's labor. Otherwise, water takes on a physical and commercial value (for example, in a swimming pool) and its pollution does not fall under the criteria of the offense being analyzed. Article 223 of the RSFSR UK specifies responsibility for contamination of any water entering the state's water supply: rivers, lakes, reservoirs, canals, springs, underground water and glaciers, and the internal seas and territorial sea water of the USSR.

The pollution of internal seas and territorial sea waters of the USSR by ships and other navigable means is not a part of the given crime. Such activities come under the terms of article 223-1 of the RSFSR criminal code.

In applying article 223 of the UK natural or artificial polluted bodies of water, canals, reservoirs, springs, etc., are of no significance where water

was situated in either a solid or liquid state (as ice, snow that covered the bodies of water), if it had effluents or if it had not existed (man-made reservoirs). Article 223 of the RSFSR UK protects the purity only of atmospheric air. The contamination of air within the confines of an industrial enterprise, I think, according to this article cannot qualify as there is a special act for violation of labor protection rules (article 140 of the RSFSR UK).

The difference between these acts is in the following. In article 223 of the RSFSR UK the object of the crime is social considerations providing favorable natural conditions for the lives of many people. The purpose of article 140 of the RSFSR UK is in safety protection from the point of view of industrial sanitation, work conditions at the enterprises, and in production. The subject of the crime in article 223 of the RSFSR UK is air not localized by any spacial boundaries, while article 140 refers to air within the confines of an industrial unit, a shop, etc. These crimes differ even by the method of their perpetration. Article 223 refers to air pollution by means of discards of gases, dust and other by-products of industry through special devices (gas, dust and other devices), while in article 140 the source of pollution of "interior" air can be the diverse materials, mechanisms used in production processes and situated inside (under roof) the enterprise. If as a result of harmful discharges into the atmosphere the "internal" air of this enterprise is polluted, the responsibility for this is a violation according to article 223 of the criminal code. The difference between these acts is also according to subject: the scope of subjects is broader in article 223 of the criminal code than in article 140 of the RSFSR UK.

The objective aspect of the offense being examined is so designed that it is advisable to look at it separately as it applies to water pollution and air pollution.

A legislator discerns the fundamental and qualifying composition of this crime. The features of the basic component characterizing the objective aspect in the contamination of bodies of water consist of pollution of rivers, lakes and other bodies of water and water sources by impure and harmful sewage water, by-products or discards from industry, agriculture, municipalities or from other enterprises, from institutions and organizations; in the causing of such pollution of harm to people's health or to agricultural production or to the fish supply, or in creating a real threat of this being caused; in the causality between pollution and the causitive harm or the possibility of such a thing happening.

What is meant by pollution of bodies of water? First, pollution always brings forth changes in the physical, chemical and biological properties of water due to penetration into it of various foreign substances. Secondly, water can be considered polluted if it has become dangerous to human health, the fish supply and other interests of society.

Various demands are made on the quality of water. And this depends upon the purpose for which it is intended. However, the basic requirement is that it is safe for human consumption. Hygienic standards have been established on the content of this or that substance in water. They determine the dosage of their content in water, beyond the limits where the substance becomes dangerous to the organism. About 500 standards have been set up in the USSR to determine contamination of water resources. Science has adopted these standards to designate maximum permissible concentrations [PDK]. Their action is applied throughout bodies of water for sanitary, domestic or fishing industry use. They are approved by the USSR Ministry of Health. For example, according to adopted standards drinking water (in milligrams per liter) cannot have more than 0.1 mg of lead, 0.05 mg of arsenic, from 0.7-1.5 mg of flourine, etc. In determining pollution it is necessary to refer to PDK.

And so according to article 223 of the UK the pollution of water has this change when it becomes harmful to human health, agricultural production of the fish supply due to saturating the water with various harmful substances exceeding the established norms.

A special kind of pollution is the change in the thermal system of water, "thermal pollution" from thermal and atomic power stations. The water, heated to a specific temperature becomes harmful to several organisms. For example, many salmon, turbot and trout prefer low temperatures, while in heated water (15-20 degrees C) they not only cease multiplying but even die. The permissible warming standards are not more than three degrees in summer and five in winter.

Pollution of water resources and their contamination are distinct ideas. Contamination also causes specific harm to the condition of the water resources but is not so strong in lowering water quality. This is possible by means of dumping various solid objects, rubbish, wood pulp, etc. into the bodies of water. Contamination can lead to changes in the condition of the river bed and to other damaging consequences and at times to pollution of the water body if the objects decomposing in the water make it unsafe for man or harmful to agriculture or the fish supply.

Article 223 of the RSFSR UK calls for responsibility for pollution resulting from impure and not rendered harmless sewage water, discards or by-products of the various enterprises entering a body of water. Sewage water is water used for industrial and domestic purposes having obtained additional pollutants that have changed the water's initial physical, chemical or biological composition.

The order and conditions for using water facilities for the discarding of sewage water are regulated by legislation of the USSR and the union republics: by the Principles of Water Legislation, by republic water codes, by the decree of the USSR Council of Ministries of 4 September 1959 "On Intensification of State Control over the Use of Underground Water and on Measures for Its Protection," and by the Regulation for the Protection of Surface Water From Pollution by Sewage Water.

Discards--these are the useless leftovers of production, while by-products are still useful for some purpose. The distinction between these notions is relative since "usefulness" or "uselessness" of this or that substance depends on the type of production, while the important difference depends on the level of scientific development and production technology. For example, slag and sawdust which until recently were considered discards are now being successfully used in construction.

Dumping of industrial, domestic and other types of waste products and discards into water resources is forbidden (article 38 of the Principles of Water Legislation). Pollution of water resources by finished goods (for example, by fertilizers) is not embraced in article 223 of the UK, and the actions of the offender in these cases are looked upon as an official crime or as an offense against socialist property.

The second characteristic the objective aspect of the composition of the crime being examined is the causing of indicated damage or the possibility of causing harm according to law. Harm is considered having been done to human health if as a consequence of water pollution just one person gets sick and the illness was related to a category of, as a minimum, light physical injuries. Damage to agriculture can be expressed in effecting a useless condition to cattle pasture, loss of plants and by other consequences. Damage to the fish supply consists of fish loss, making spawning and fattening areas useless, etc. Damage caused to other interests (wild animals, scenery) is not included in article 223 of the RSFSR UK.

The crime is considered as having been committed when pollution has created a real threat to human health, agriculture, or the fish supply.

The responsibility for water pollution ensues both when there is direct dumping of impure and water not rendered harmless, discards of waste products into a body of water and when it is done by indirect means. For example, while organizing dumping grounds for industrial by-products at a river. It is evident that here cause and damage ties must be set up between pollution and its harmful consequences.

The objective aspect of air pollution consists of the effect of industrial waste products in air that give rise to harmful admixtures in the air above maximum permissible concentrations damaging to human health. The USSR has more than 160 active standards establishing the maximum permissible content of various chemical substances in the atmosphere including several of their combinations. In determining whether the air is polluted one must bear in mind that in combined forms harmful substances may be human health hazards even though the PDK for each substance is within the standards. This substantially makes the solution of the problem of air pollution difficult and requires conducting examinations.

Air pollution is considered as a crime having taken place irrespective of causing harm to human health.

Article 223 of the RSFSR criminal code establishes responsibility for air pollution for just by-products of industry. Some forms of this pollution (transportation, domestic ovens) are not covered by this article.

What qualifies as a part of water and air pollution is when that pollution shall cause considerable damage to human health or agricultural production or if it entails massive fish loss.

I think a substantial cause of harm to health presumes the cause even if it is to one person for severe or less serious bodily damage. However, if the guilty party consciously permitted the offense of severe or less serious bodily harm his responsibility is specified according to a combination of articles 223 and 108, or 109 of the RSFSR UK. Since consequences in terms of death are not provided for in the law this offense requires applying regulations to the guilty on the combination of crimes because this is independent of the form of guilt with reference to death.

Significant damage to agricultural production implies loss of crops planted on considerable land area, large losses of cattle, etc.

Massive fish loss is large-scale fish poisoning, as a rule over a large water area, the poisoning of valuable species and other circumstances. In practice this indication is usually tied to losses amounting to 10,000 rubles and more (Bulletin of the RSFSR Supreme Court, 1966, No 7, p 12; 1976, No 4, p 7). The methods for calculating losses is determined by an instruction of the USSR Ministry of the Fishing Industry of 16 August 1967 (see OKHRANA PRIRODY, A Collection of Standardization Acts, Moscow, 1977, p 333).

A causative tie must be established between pollution and the resultant harmful consequences. For this class of affairs it is often necessary to conduct investigations: technological, hydrological, biological and others.

Subject to the crime under analysis, according to the decree of the USSR Supreme Court Plenum of 11 April 1972 "On the Practice of Using Courts of Law for the Protection of Nature," can be both official and unofficial parties (for example, drivers who pour out poisonous industrial by-products, oil, etc. into rivers). On the whole according to article 223 of the criminal code, officials are accountable inasmuch as the responsibility for the work of sewage treatment plants and gas trapping and dust trapping facilities is namely theirs. This means directors, chief and senior engineers of enterprises, shift chiefs, etc. If their activities contain the signs of an official crime they are responsible according to a combination of crimes.

The subjective aspect of this crime is expressed in premeditated or careless fault but without a special purpose to cause the damage as indicated in the law. For this very fact of water or air pollution fault can be in the form of intent or criminal negligence; for the consequences there is only carelessness.

With direct or indirect intent for harmful consequences indicated in article 233 of the RSFSR UK, criminal responsibility takes place according to a combination of offenses. For example, according to article 233 and articles on crimes against a person (if speaking about life or health, then this is according to articles 102, 103, 108 and 109 of the RSFSR UK) or according to article 223 and articles on crimes against socialist property (article 98 of the RSFSR UK).

Criminal pollution of bodies of water and the air is possible for various reasons: from improperly understood interests of an enterprise, from an unscrupulous regard for official obligations, etc.

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DENMARK

CONVENTION ON PRODUCTION OF BALTIC WATERS RATIFIED

Copenhagen LAND OG FOLK in Danish 8 Jul 77 p 3

[Text] Denmark has now ratified the convention to protect the ocean environment in the Baltic area according to the Foreign Ministry.

Denmark is the fourth country to ratify. The convention will go into effect when all the seven nations with coastlines on the Baltic Sea have ratified it.

The convention covers ocean pollution from shore, for example via rivers and other watercourses, and shipping pollution, with oil, for example. The convention contains regulations prohibiting most dumping within the area affected by the convention. The convention imposes on participating nations a wide range of cooperative tasks, such as work in connection with combatting oil spills. The parties agree to maintain a state of preparedness to combat emergencies as well as to set up a surveillance system.

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DENMARK

# GREENLANDERS PROTEST OFFSHORE DRILLING, FEAR NEW OIL SPILLS

Copenhagen LAND OG FOLK in Danish 12 Jul 77 p 6

[Article by John Wilken]

[Text] This summer's search for oil off the west coast of Greenland has begun. It started despite Greenland protests from the trappers and fishermen's organization KNAPP [expansion unknown] and despite the request from 11 members of the Greenland National Council to the Danish government to delay the studies temporarily.

The Greenland protests were based on grave warnings by environmental experts and an official report prepared after the Bravo accident in the North Sea in April. Similar or even less serious accidents would be catastrophic for the Arctic environment. If conditions were unfavorable, such pollution could not be combatted at all, the report said.

## Canadian Halt

For this reason the Canadian government has decided to halt oil discovery probes on the other side of the David Straits altogether.

In the paper GRONLANDSPOSTEN it was pointed out that the safety equipment used in test drilling is inadequate. Because of poor transportation, it could take several days before supplementary equipment could reach the drilling area. Even so the government still calls the Danish environmental and safety requirements the "toughest in the world."

In the book, "Development Trends for Greenland," the authors, M. C. Bach and Jorgen Taagholt, feel that safety regulations should be so tough that the chances of an accident occurring are theoretically excluded. They reason that oil accidents simply cannot be combatted in Arctic regions. That is the reason why the Canadian experts are halting oil drilling off their coastline. They also warn against using chemical methods on oil spills. They would do more harm than good -- especially under Arctic conditions according to Shawn Gill, a Canadian. But chemical methods are still the major element in the pollution control measures in Greenland.



The worst that could happen in the event of an oil spill in Greenland is that the oil would spread under the ice, the book says. It is very hard to recapture oil when it has first spread out under ice. This spreading can occur more quickly in Arctic waters anyway because of the strong ocean current. And oil breaks down much slower there because of the low temperatures.

Another danger in Arctic waters is that oil pollution could lead to a melting of the natural ice cover in the polluted areas.

Oil can permeate upward through the ice to the surface, reducing the capacity of the ice to reflect the rays of the sun with a corresponding increase in heat absorption. It says that if reflection is reduced by 10 percent it would lead to a 60 percent reduction in ice thickness.

Another reason given for why oil would be more polluting in the Arctic area is that the low water temperature promotes the assimilation of oil into sea water.

Pollution would also have a worse effect if it occurred in the 5 months when biological production is at its highest.

Despite these and other warnings, the government has permitted this summer's oil search to get under way without restrictions.

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SWEDEN

# ENVIRONMENTAL GROUP PROTESTS PROPOSED URANIUM EXPLOITATION

Stockholm SVENSKA DAGBLADET in Swedish 1 Aug 77 pp 1, 4

[Article by Katrin Hallman]

[Text] A big environmental encampment is beginning today near Ranstad in Västergötland. What the debate there will be about is whether the exploitation of uranium slate by LKAB [Luossavaara-Kiirunavaara AB] shall get under way or not.

The slates around Ranstad contain 300,000 tons of uranium that it is possible to exploit economically today. At the present prices the uranium of Ranstad is worth between 90 billion and 120 billion kronor.

But the opposition to exploitation is great. The Scandinavian Environmental Encampment that begins today was located at Ranstad because no decision about the exploitation of the slate has been reached as yet.

The opponents are concerned about the damage to the environment that would be the result of the exploitation. Over 90,000 tons of waste are to be piled up in walls 7 meters high, among other things.

On 31 October the town councils of Falköping and Skövdesäga will say yes or no to the Ranstad project.

LKAB's description of the Ranstad project is merely a rubber stamp. Nobody can bring himself to believe that uranium mining can be stopped later if several hundred million has been invested and a good 300 men have been working in the mines for 10 years.

Nils-Erik Dedemo, chairman of the Skövde Environmental Forum, is concerned lest the authorities and politicians forget the broader picture when they are considering LKAB's application to be allowed to mine slate in Ranstad, near the southern part of the Billing.

Today the Scandinavian Environmental Encampment begins at Ranstad. The place was chosen with an eye on the decision this fall about the slate exploitation. Will the municipalities use their veto power?

It is still unknown whether the majority of the politicians in Skövde and Falköping will say yes or no to the Ranstad project. The respective authorities are to meet on 31 October to make their decision, but the health and building commissioners must have their say a month earlier.

### Sugar-Coating the Pill

LKAB has asked to be allowed to take out a million tons of slate a year for 10 years to extract 200 tons of uranium, 60,000 tons of aluminum, potassium, nickel, vanadium, etc. LKAB says that the uranium will account for a third of the value of the minerals, which is 250 to 300 million kronar a year.

"But the uranium is a bigger part than that," says Nils-Erik Redemo. "It is wrong to talk about a mineral project; it is still a uranium project. LKAB is trying to get the politicians to swallow the pill by sugar-coating it."

The actual application concerns 200 hectares of ground. Over 900,000 tons of waste material a year will be piled up in walls 7 meters high. About 15 farms will be affected to a great extent and 20 to 30 marginally. The emissions into the air will be 400,000 tons of sulfur dioxide a year and 200 tons of dust.

### 120 Billion

If the mining gets under way and is continued until the whole Ranstad deposits are exploited, the prospect is different. The slates around Ranstad contain 30,000 tons of uranium that it is economical to exploit today.

At the present prices of uranium the Ranstad uranium is worth 90 to 120 billion kronor. This value is the equivalent of 5 years' exports of pulp and paper. Sweden's total exports in 1976 were worth 75 billion. To the value of the uranium may be added the value of the other minerals. In all, there is about 600,000 tons of uranium around the Billing.

In that perspective some 500 to 700 square kilometers of ground would be involved, although the mining would be chiefly underground.

### The Country's Interests

"The Nature Conservation Bureau has declared the area of Billing a resource for the whole country to preserve in view of the natural beauty and the active open-air life. The National Antiquarian Agency said before that that the Häggumsdal is of national interest as a historico-cultural area. The Scandinavian Council had a working group here in 1973 that declared that the Billing, the Valle district, and Lake Hornborgar are an especially valuable area. They were looking at the whole picture," says Folke Hagman, one of the first to get involved against the Ranstad project.

The Skövde Environmental Forum has concentrated on what the slate quarrying means to Västergötland. There is cooperation with environmental groups in Skåne and Närke and on Öland that also wish to stop the slate exploitation.

## Internationally

But Ranstad is also of great importance in an international perspective. There are international reports that indicate that the known world deposits of uranium will begin to give out early in the 1990's. Others say that the uranium will last for 30 years. At the same time it is known that large promising uranium areas have not been prospected.

Ranstad accounts for 14 percent of the uranium that is profitable to exploit today, and dominates the uranium supplies of Europe. France and West Germany have justified putting their stakes on breeder reactors partly by the fact that uranium threatens to give out. Breeder reactors utilize uranium many times better than the present nuclear power reactors, while at the same time they involve considerably greater safety problems.

In Australia the proponents of uranium exports have pointed out among other things that such exports would reduce the need for breeder reactors. Environmental groups and a number of scientific associations in Australia have pointed out on the other hand that uranium exports also involve a responsibility for how the uranium is used later. Can one guarantee that exports of uranium will not indirectly involve a greater risk of the spread of nuclear weapons?

In a report on the nuclear fuel cycle, Thomas B. Johansson pointed out the risk that other countries may demand uranium exports from Sweden as a condition of selling other commodities to us.

In the government the Center Party talked earlier about stopping nuclear power in Sweden in the middle of the 1980's. If the government decides to let LKAB start up in Ranstad, it will have to take a position indirectly on whether Sweden will help other countries to develop nuclear power.

## An Alternative

LKAB has also given the government an alternative that involves holding the Ranstad project in reserve; i.e., letting only research on the slates continue in Ranstad with the aid of state support and only a few tons of slate quarrying each year. LKAB has declared at the same time that uranium ore is the mineral that has the greatest importance for Sweden today.

In August the "Billingen committee" is to present its report. The committee was started by the then minister of industry Rune Johansson when there was a hubbub about Ranstad in 1975.

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SWEDEN

# CITIZENS URGED TO VETO URANIUM MINING REQUEST

Stockholm DAGENS NYHETER in Swedish 7 Aug 77 pp 1, 9

[Article by B. B. Melander]

[Text] Skövde, Saturday.--Let the uranium stay in the mountain! Don't dig up a whole district for the "nuclear interlude" in Europe!

That was the cry of the Skövde Environmental Forum and the Environmental League before thousands of hearers in Skövde Saturday. Birgitta Andersson, the "teacup lady," threatened the municipal politicians with firing. In a monolog she warned them to cast their votes "no" on uranium mining in Ransstad.

Andersson suspected new treachery, and said, in Västergötland dialect, of Prime Minister Fälldin, "He was fine as long as he was saner."

Benny Kullinger, chairman of the Environmental League, said that nuclear power "clings like a leech" when it comes to areas of importance to the nuclear industry.

"Such an important area is uranium mining. The industry hopes for better times later. What we must do, therefore, is to say no right now to all mining!"

Kullinger pointed out that in a future oil crisis Sweden may be forced to export uranium, for example to Europe.

"The pressures are strong. We see the shortage of uranium in the decision in favor of breeder reactors in France, where the Super-Phoenix reactor will be built with police help. Peaceful demonstrations are not allowed. The police will protect nuclear power from the people!"

Kullinger said that we must immediately decide on an alternative to oil and nuclear power.

"These sources of power do not solve the problem of unemployment. Nuclear power is a threat to employment. We see every day that our energy-intensive economy cannot ensure jobs. Instead, it is used for unnecessary labor-saving."

And the chairman of the Environmental League believed that "it will be a hot autumn" in the nuclear power question.

And there are many matters that will come up during the fall, including discussions of the uranium-bearing sleet in Sweden and also the big questions of the continued operation of Barsebäck 2 and the start of Ringhals reactor 3.

The application of LKAB [Luossavaara-Kiirunavaara AB, Kiruna] to be allowed to mine a million tons of slate a year is to be decided on in the fall by the Skövde municipality.

The municipality has a veto right. For that reason the environmentalist groups are extraordinarily intensive in their attempt right now to get the local parties to stick by their campaign promises that no mining at all shall take place in Ranstad.

Erik Rudemo, chairman of the Environmental Forum, said, "Almost everybody today is agreed that nuclear power can only be an interlude. We will never sacrifice the hills of Västergötland to prolong that interlude by a few years."

Eskil Block of FOA [Defense Research Institute] and Prof Jan Rudberg of Chalmers were also there beside the Lake Boulogne. They have presented a paper before the Scandinavian Environmental Encampment concerning the Billing and wanted to talk about the necessity of continuing the Ranstad operation.

"In its own interest and in the name of international solidarity, each country must use its own resources first of all. For us only nuclear energy and hydrocarbons from slate constitute realistic alternatives," in the opinion of Rudberg and Block.

They advocated continuation of the Ranstad operation. "But it is not necessary to mine as much as a million tons of slate, as LKAB wants to do," Prof Rydberg told DAGENS NYHETER.

According to DAGENS NYHETER's information, LKAB can avoid a municipal veto simply by reducing the number of tons in its application for mining. By mining about half the amount, i.e. 440,000 tons of slate, they can mine until 1980 according to the present status, and in that case the municipalities cannot say no.

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## TURKEY

### BRIEFS

WATER POLLUTION--Izmir--It is claimed that, due to the lack of effective efforts against water pollution in Turkey, a country surrounded by seas on three sides, the marine products are gradually disappearing. According to a study and research project carried out by the Food, Agriculture and Animal Husbandry Ministry's Izmir Regional Directorate of Marine Products, the "water pollution problem" in Turkey is reaching dangerous proportions. The report indicates that, following their delivery to the consumers, the marine products, raised in a polluted environment, presented what could be called dangerous conditions, from the standpoint of nourishment. The report said: "For example, fish caught in waters polluted by petroleum and petroleum derivatives gave off a smell of gas when their stomach cavities were opened. Fish produced and marketed by sweet water production farms which had been contaminated by flood waters, gave off a muddy smell when their stomach cavities were opened." "The most effective battle against pollution is the one which eliminates the causes of pollution. Meanwhile, from the standpoint of increasing effectiveness, the coordination of all the efforts at one point would be of great value." [Text] [Istanbul CUMHURIYET in Turkish 5 Jun 77 p 7]

PIPELINE RUPTURE--Mardin--The investigation carried out into the Iraqi petroleum pipeline rupture, which occurred in the vicinity of Mardin's Yakacik village, has been completed. In the report prepared by the Mardin Provincial Gendarmerie Regiment Command, together with technical authorities, they indicated that the rupture occurred due to "a technical fault." Meanwhile, it has been learned that hundreds of 'donums' [approx. 1/4 acre] of vineyards have been polluted by the petroleum and the distraught Yakacik villagers are preparing to sue for damages, saying: "What was our sin, what are we to do now?". In a statement made to the HURRIYET NEWS AGENCY, by Fuat Elbesi, a representative of the Iraqi petroleum pipeline, Mr Elbesi indicated that he could not say anything at the moment about the amount of the damages. Elbesi, indicated that four engineers, one French and three Turkish, were repairing the welds on the two pipes where the rupture occurred. He said "Our biggest fear was sabotage, so we are pleased that we are not faced with such a situation." On the other hand, an authoritative source, who did not wish his name to be revealed, claimed that sufficient measures had not been taken to protect the Iraqi petroleum pipeline, which cost millions of lira to build. [Text] [Istanbul HURRIYET in Turkish 28 Jul 77 p 3]

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